HEATER VOLTAGE (A.C. or D.C.)  6.3 Volts
HEATFR CURRENT  0.6 Amperes
FOCUSBNG METHOD  Electrostatic
DEFLECTION METHOD  Electrostatic

Electrodes DJ1 and DJ2 are nearest to screen and designated as "upper."
DJ1 is on same side of tube as pin No. 5.
Electrodes DJ3 and DJ4 are nearest to base and designated as "lower."
DJ3 is on same side of tube as pin No. 2.

PHOSPHOR  No. 7

DIRECT INTERELECTRODE CAPACITANCES (Approx.):
Grid to All Other Electrodes  3 µµf
Cathode to All Other Electrodes  7 µµf
Deflecting Electrode DJ1 to Deflecting Electrode DJ2  2 µµf
Deflecting Electrode DJ3 to Deflecting Electrode DJ4  2 µµf
Deflecting Electrode DJ1 to All Other Electrodes  9 µµf
Deflecting Electrode DJ3 to All Other Electrodes  7 µµf
Deflecting Electrode DJ1 to All Other Electrodes except Deflecting Electrode DJ2  7 µµf
Deflecting Electrode DJ2 to All Other Electrodes except Deflecting Electrode DJ1  7 µµf
Deflecting Electrode DJ3 to All Other Electrodes except Deflecting Electrode DJ1  5 µµf
Deflecting Electrode DJ4 to All Other Electrodes except Deflecting Electrode DJ3  6 µµf

OVERALL LENGTH  10 in. +1/4 in.
GREATEST DIAMETER of BULB  3 in. +1/16 in.
MINIMUM USEFUL SCREEN DIAMETER  2-1/2 in.
BULB SIDE TERMINAL  Snap Connector
BASE  Dineptal 12-Pin 14B

MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS
Maximum Ratings Are Absolute Values

ANODE No. 3 (Supplementary High-Voltage Electrode) VOLTAGE 4400 max. Volts
ANODE No. 2 (High-Voltage Electrode) VOLTAGE  2200 max. Volts
ANODE No. 1 (Focusing Electrode) VOLTAGE  1100 max. Volts
GRID (Control Electrode) VOLTAGE  Never positive
PEAK VOLTAGE BETWEEN ANODE No. 2 and ANY DEFLECTING ELECTRODE  550 max. Volts
D-C HEATER-TO-CATHODE POTENTIAL*  125 max. Volts
IMPEDANCE of ANY DEFLECTING-ELECTRODE CIRCUIT at HEATER-SUPPLY FREQUENCY  1.0 max. Megohms
GRID-CIRCUIT RESISTANCE  1.5 max. Megohms

TYPICAL OPERATION:
Anode No. 3 Voltage**  2000 3000 4000 Volts
Anode No. 2 Voltage***  2000 1500 2000 Volts
Anode No. 1 Voltage for Focus at 75% of Grid Voltage for Cut-Off#  575 430 575 Volts

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TYPICAL OPERATION: (continued)

Grid Voltage for Visual Cut-Off

<table>
<thead>
<tr>
<th>Value</th>
<th>-60</th>
<th>-45</th>
<th>-60</th>
<th>Volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values subject to variation of</td>
<td>±50</td>
<td>±50</td>
<td>±50</td>
<td>Per cent</td>
</tr>
</tbody>
</table>

Deflection Sensitivity:

<table>
<thead>
<tr>
<th>Electrodes</th>
<th>DJ1 and DJ2</th>
<th>DJ3 and DJ4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values</td>
<td>0.115</td>
<td>0.115</td>
</tr>
<tr>
<td>Subject to variation of</td>
<td>±20</td>
<td>±20</td>
</tr>
</tbody>
</table>

* With heater negative. The cathode should be connected to the mid-tap or to one side of the heater transformer winding.

** For high-velocity scanning, it is recommended that the anode No. 3 voltage be not less than 3000 volts.

*** Brilliance and definition decrease with decreasing anode voltage. In general, anode voltage should not be less than 1500 volts.

# Individual tubes may require between 30% and -35% of these values with grid voltage between zero and cut-off.

## Visual extinction of stationary focused spot.

SPOT POSITION

The undeflected focused spot will fall within a 15-mm square centered at the geometric center of the tube face and having one side parallel to the trace produced by DJ1 and DJ2.

Suitable test conditions are: anode No. 3 voltage, 4000 volts; anode No. 2 voltage, 2000 volts; anode No. 1 voltage, adjusted for focus; deflecting-electrode resistors, 1 megohm each, connected to anode No. 2; the tube shielded from all extraneous fields. To avoid damage to the tube, make the test with grid voltage near cut-off.

BASING and DEFLECTING-ELECTRODE ALIGNMENT

The angle between the trace produced by DJ1 and DJ2 and its intersection with the plane through the tube axis and pin No. 5 will not exceed 10°.

The angle between the trace produced by DJ1 and DJ2 and the trace produced by DJ3 and DJ4 will be 90° ±4°.

With DJ1 (pin 11) positive with respect to DJ2 (pin 10), the spot will be deflected toward pin 5; likewise, with DJ3 (pin 7) positive with respect to DJ4 (pin 8), the spot will be deflected toward pin 2.

The bulb side terminal for anode No. 3 is on the same side of the tube as pin 5. It is in a plane parallel with the trace produced by DJ1 and DJ2 within 10°.

ANODE No. 3 CURRENT vs GRID VOLTAGE CHARACTERISTIC

Anode No. 3 Voltage......4000 volts
Anode No. 2 Voltage......2000 volts
Anode No. 1 Voltage......adjusted for focus

<table>
<thead>
<tr>
<th>Anode No. 3 Current, Microamperes</th>
<th>Grid Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>0</td>
</tr>
<tr>
<td>165</td>
<td>-10</td>
</tr>
<tr>
<td>100</td>
<td>-20</td>
</tr>
<tr>
<td>55</td>
<td>-30</td>
</tr>
<tr>
<td>23</td>
<td>-40</td>
</tr>
<tr>
<td>4.5</td>
<td>-50</td>
</tr>
<tr>
<td>0</td>
<td>-60</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HEATER</td>
</tr>
<tr>
<td>2</td>
<td>CATHODE</td>
</tr>
<tr>
<td>3</td>
<td>GRID NO. 1</td>
</tr>
<tr>
<td>4</td>
<td>INTERNAL CONN. Do Not Use</td>
</tr>
<tr>
<td>5</td>
<td>ANODE NO. 1</td>
</tr>
<tr>
<td>6</td>
<td>DEFLECTING ELECTRODE D/3</td>
</tr>
<tr>
<td>7</td>
<td>DEF. ELECTRODE D/4</td>
</tr>
<tr>
<td>8</td>
<td>ANODE NO. 2 &amp; GRID NO. 2</td>
</tr>
<tr>
<td>9</td>
<td>DEF. ELECTRODE D/2</td>
</tr>
<tr>
<td>10</td>
<td>DEF. ELECTRODE D/1</td>
</tr>
<tr>
<td>11</td>
<td>NO CONNECTION</td>
</tr>
<tr>
<td>12</td>
<td>HEATER</td>
</tr>
</tbody>
</table>

Bottom View Of Base

Anode No. 3

Snap Terminal

Medium Shell Dineptal 12-Pin Base

Pin Dimensions:
- 3" ± 1/16
- 13/16 ± 1/8
- 350/8 ± 3/16
- 10" ± 1/4
- 2" ± 1/4

Dimensions:
- 3 3/8 ± 1/8
- 3 7/8 ± 1/16

Bottom View of Base